tions of proBNP (pg/ml) in those with HF and LVD were 269 and 117, respectively and were significantly higher than normals (20pg/ml), p<0.001. The AUC on ROC analysis for the diagnosis of HF in the cohort was 0.85. In a multiple logistic regression analysis the independent predictors of HF (Odds Ratios) were IHD (3.9), a log unit increase in proBNP (2.6), diabetes (2.2), hypertension (2) and increasing age (1.4). Our cut-point for "an abnormal proBNP" resulted in a sensitivity of 75%, specificity of 79% and a negative predictive value of 99% for detecting HF. In this population an abnormal pro-BNP value was explained by a significant cardiac structural, functional or renal problem in 89% of cases. Restricting our analysis to subjects with dyspnoea, we could explain 95% of high proBNP values on the basis of cardiac or renal dysfunction. We had 22 "false negative" dyspnoeic subjects. Of these 16 (72%) were on cardiovascular medication which could reduce proBNP levels.

Conclusions:This large pooled population analysis confirms the usefulness of pro-BNP in diagnosing heart failure and has demonstrated what "hyperBNPaemia" is due to when cut-points based on abnormality are applied.

1013-81 **Tailoring Beta-Blocker Therapy in Patients With Chronic Heart Failure Utilizing NT-Pro-BNP**

Nicola Johnston, Mary Green, Stephen Robb, Ian Morton, Henry Dargie, Western Infirmary, Glasgow, United Kingdom

Studies have provided evidence that beta-blockers (BB) decrease mortality in patients with chronic heart failure (CHF). However, surveys carried indicate the use of BB in clinical practice is still low (between 9% and 52%). This is partly due to difficulties in implementation of BB and reluctance to commence BB in the community. The aim of this study was to examine implementation of BB in a heart failure clinic and to assess the use of NT-pro BNP to predict toleration of BB therapy.

115 consecutive patients referred to the CHF clinic for commencement of BB were included. Data collected detailed aetiology of CHF, co-morbidity and concurrent drug therapy, as well as LV function from the initial echocardiogram. At visit 1 the lowest licensed dose of BB was started and doubled every 2 weeks until maximum dose was achieved. Patients were observed for 2 hours each visit, and pulse and blood pressure were recorded every 30 minutes. Physical examination was carried out at each attendance assessing weight, JVP, peripheral oedema and chest signs of pulmonary oedema. Side-effect profile was recorded, as well as follow-up data on drug compliance. NT-pro BNP was measured at initial visit and on average every 3 months thereafter. Average age was 67 (range 19-86 years of age). Of the patients referred 48.7% had severe LVD, 45.0% moderate LVD and 6.3% mild LVD. 89.5% patients tolerated BB therapy with 41.9% established on full dose therapy. Average time taken to establish the patient on their maximum tolerated dose was 10 weeks (range 8-44 weeks). Multivariate analysis was performed using Cox regression analysis. The only significant, independent, predictors of toleration of BB therapy were NT-pro BNP level before commencement of BB and during uptitration of BB. The higher the NT-pro BNP level, the less likely the patient was to tolerate BB therapy. A history of COPD or PVD did not predict toleration of BB and nor did NYHA class or severe LVD.

BB therapy can be effectively commenced in the majority of patients with CHF. NT-pro BNP predicts which patients will tolerate BB therapy and could be of use to determine which patients could safely be commenced and uptitrated on BB in the community rather than attending hospital supervised programmes.

POSTER SESSION

1014 Hypertrophic Cardiomyopathy: Basic and Clinical I

Sunday, March 30, 2003, 9:00 a.m.-11:00 a.m.
McCormick Place, Hall A
Presentation Hour: 10:00 a.m.-11:00 a.m.

1014-59 **B-Type Natriuretic Peptide Levels in Patients With Hypertrophic Obstructive Cardiomyopathy Treated With Alcohol Septal Ablation**

Stephen M. Tann, Christopher Nielsen, Donna Killip, David S. Feldman, William H. Spencer, III, Medical University of South Carolina, Charleston, SC

Background: In patients with cardiomyopathy, the serum B-type natiuretic peptide (BNP) level has been used as a biochemical marker for assessing the degree of heart failure decompensation, and as a long-term prognostic indicator. BNP has been shown to be elevated in both systolic and diastolic heart failure. Patients with hypertrophic obstructive cardiomyopathy (HOCM) exhibit symptoms of decompensated heart failure based on left ventricular outflow tract (LVOT) obstruction and diastolic dysfunction. The purposes of this study were to determine if BNP levels are elevated in patients with symptomatic HOCM, and if these levels would decrease with successful alcohol septal ablation. **Methods**: Serum BNP levels were drawn in 10 consecutive patients at baseline, 24 and 48 hours. Peak LVOT gradients at rest and with Valsalva were measured by echo Doppler pre and post procedure. **Results**: See table below:

	Pre-Ablation	24 hours post ablation	48 hours post ablation
BNP (pcg/ml)	578 +/- 155	193 +/- 55	172 +/- 22
LVOT rest (mmHg)	70.6 +/- 7.4	14.8 +/- 1.8	
LVOT valsalva (mmHg)	104.3 +/- 8.4	40 +/- 5.7	

After alcohol septal ablation, serum BNP levels decreased by 67% at 24 hours (p=0.024), and 71% at 48 hours (p=0.014). The resting LVOT gradient decreased by 79% (p<0.0001) after the procedure, and with Valsalva the LVOT gradient decreased by 62% (p<0.0001). **Conclusion**: Serum BNP levels are elevated in patients with elevated peak LVOT gradients and symptomatic HOCM. Successful treatment with alcohol septal ablation produced a marked decrease in peak LVOT gradient and serum BNP levels. BNP levels may be considered as a surrogate marker for therapeutic success after alcohol septal ablation.

1014-60 **Echo-Guided Septal Ablation for Hypertrophic Obstructive Cardiomyopathy: Six Years of Experience**

Lothar Faber, Dirk Welge, Hubert Seggewiss, Dieter Fassbender, Ulrich Gleichmann, Dieter Horstkotte, Heart Center North Rhine-Westphalia, Bad Oeynhausen, Germany, Leopoldina Hospital, Schweinfurt, Germany

Background: Ethanol-induced septal ablation for symptomatic hypertrophic obstructive cardiomyopathy (HOCM) requires the exact definition of the septal myocardium to be abladed. We report on our cumulative experience with PTSMA guided by intra-procedural contrast echo (MCE) on an intention-to-treat basis in 322 patients (pts.) treated from 1/1996 – 12/2001.

Results: Ethanol could not be injected in 26 pts. (8%), predominantly due to an unwanted extension of the target region as documented by MCE in 18 pts. (6%). In 33 out of the 296 pts. pts. (11%) who received ethanol, a target vessel (TV) change was necessary for the same reason. In-hospital mortality was 1.4% (4 pts.). After 3 months, symptoms had improved in 262 pts. (89%) from NYHA class 2.8±0.5 to 1.5±0.6, with a mean increase in exercise capacity by 21±46 watts (p<0.0001 each). 157 pts. (53%) reported to be free of symptoms. A satisfactory mid-term (3 months) reduction of the left ventricular outflow gradient (LVOTG) was achieved in 243 pts. (82%; from 58±33 to 13±18 Hg at rest and 119±44 to 37±35 mm Hg with provocation; p<0.0001). 119 pts. (43%) were free from outflow obstruction. LVOTG with probatory balloon occlusion during the intervention was 39±31 mm Hg (p<0.001). There was a weak correlation between the LVOTG with probatory balloon occlusion (PBO) and the residual LVOTG after 3 months (0.3; p<0.001). PBO-induced LVOTG reduction was >30% in 159 pts. (54%) and >50% in only 112 pts. (38%).

Conclusions: In case of a positive intra-procedural MCE study, PBO adds little information with respect to TV selection in PTSMA for HOCM. Furthermore, MCE is able to exclude alcohol necrotization of myocardium remote from the septal target area, and thus adds to the safety of the procedure.

1014-61 **Insulin-Like Growth Factor-I Attenuates Myocardial Hypertrophic Response to Sarcomeric Mutations in Human Familial Hypertrophic Cardiomyopathy**

David A. Begley, Saidi A. Mohiddin, Andrew E. Arai, Jing-Ping Lin, Dorothy Tripodi, Lameh Fananapazir, National Institutes of Health, Bethesda, MD

Background: Familial hypertrophic cardiomyopathy (FHC) is caused by mutations in sarcomeric contractile proteins. Impaired sarcomeric function leads to expression of a variety of genes, resulting in compensatory left ventricular (LV) hypertrophy. The severity of the cardiac hypertrophy is an important determinant of clinical outcome. LV hypertrophy, is however, highly variable in affected family members with an idendical disease mutation. The reasons for the marked differences in phenotypic expression are not known. Insulin-like growth factor-I (IGF-1) plays an important role in cardiomyocyte viability and function. We therefore hypothesized that variations in IGF-1 levels account for some of the phenotypic heterogeneity in FHC. Methods: Plasma IGF-1 and its binding protein IGFBP3, and LV indices measured by magnetic resonance imaging, were measured in 100 subjects with diverse mutations causal for FHC (mean age, 30±2 years; 43 males), and 50 normal family members without disease mutation (controls). Results: IGF-1 levels increased between the ages of 5 and 20 years and decreased thereafter. IGF-1 levels were lower in FHC subjects but the decline with age in adults was similar to controls. In subjects with sarcomeric gene mutations, maximum LV wall thickness (LVWT) varied between 9 mm to 44 mm and correlated poorly with LV mass. There was a significant inverse correlation between IGF-1 levels (but not IGFBP3) and maximum LVWT in this subset (p=0.006), when age, gender, body surface area, IGFBP-3, and relation among family members in the study were controlled for. Notably, IGF-1 levels also correlated significantly with maximum LVWT:LV diastolic volume (p=0.00026), a ratio which reflects LV wall stress.

Conclusions: Elevated IGF-1 levels are protective and are associated with milder FHC phenotype, possibly because the increased IGF-1 activity lessens myocyte contractile dysfunction induced by sarcomeric mutation, thereby attenuating the myocardial hypertrophic response. Our findings indicate that the use of octreotide to reduce IGF-1 levels in HCM, suggested by some workers, may have deleterious effects.